

What is claimed is:

[Claim 1] 1. A combustor for a gas turbine comprising:

a combustor body having an aperture;

a casing enclosing said body and defining a passageway therebetween for carrying compressor discharge air;

at least one injection tube for supplying an amount of said compressor discharge air into said combustor body, said injection tube is disposed between said aperture and through said casing; and

a collar disposed at said passageway, wherein said collar surrounds said injection tube so that said injection tube passes through said collar and a gap is disposed between said collar and said injection tube, said collar having a plurality of openings.

[Claim 2] 2. The combustor of claim 1, wherein said plurality of openings are arranged and sized so that a predetermined amount of said compressor discharge air is constantly supplied into said combustor body.

[Claim 3] 3. The combustor of claim 1, wherein each of said plurality of openings are about 0.6 centimeter to about 1.3 centimeter in diameter.

[Claim 4] 4. The combustor of claim 1, wherein each of said plurality of openings are arranged in equally spaced rows around said collar.

[Claim 5] 5. The combustor of claim 1, wherein said collar having a first end and a second end, said first end mounted to said combustor body and said second end extending to said injection tube.

[Claim 6] 6. The combustor of claim 5, further comprising a retaining clip that connects said collar to said body at said first end.

[Claim 7] 7. The combustor of claim 1, further comprising a space between an outer diameter of said aperture of said body and an end of said injection tube.

[Claim 8] 8. The combustor of claim 1, wherein said aperture is larger than an outer span of said injection tube.

[Claim 9] 9. The combustor of claim 1, wherein said collar includes a straight section that is mounted to said body and a sloped section that extends to said injection tube.

[Claim 10] 10. The combustor of claim 9, wherein said straight section includes said openings and said sloped section includes said openings.

[Claim 11] 11. The combustor of claim 1, further comprising a catalytic reactor disposed in said body for controlling pollutants released during combustion.

[Claim 12] 12. The combustor of claim 1, further comprising a reaction zone within said combustor body for main combustion of fuel and air.

[Claim 13] 13. The combustor of claim 1, wherein said amount of said compressor discharge air from said at least one injection tube is variable and said plurality of openings supplies a fixed amount of said compressor discharge air into said compressor body.

[Claim 14] 14. A combustor for a gas turbine comprising:

a combustor body having an aperture;

a casing enclosing said body and defining a passageway therebetween for carrying compressor discharge air;

at least one injection tube for supplying a variable amount of said compressor discharge air into said combustor body, said injection tube is disposed between said aperture and through said casing; and

means for supplying a fixed amount of said compressor discharge air into said body, said fixed amount disposed circumferentially around said variable amount.

[Claim 15] 15. A combustor for a gas turbine comprising:

a combustor body having an aperture;

a casing enclosing said body and defining a passageway therebetween for carrying compressor discharge air;

at least one injection tube for supplying a variable amount of said compressor discharge air into said combustor body, said injection tube is disposed between said aperture and through said casing; and

a collar disposed at said passageway and mounted to said combustor body and extending to said injection tube, said collar configured to supply a fixed amount of said compressor discharge air to said body.

[Claim 16] 16. A method for quenching combustion in a gas turbine, the method comprising:

supplying a fixed amount of compressor discharge air into a body of a combustor of the gas turbine; and

supplying a variable amount of compressor discharge air into said body, said fixed amount is disposed concentrically around said variable amount.